

Remarks

Reconsideration and allowance of this application, as amended, are respectfully requested.

To advance prosecution, claims 1 and 38 have been amended to overcome the rejection under 35 U.S.C. § 112, first paragraph. Claim 44 has been canceled without prejudice or disclaimer. Claims 1-13 and 16-43 are now pending in the application. Claims 1, 38, and 43 are independent. The rejections are respectfully submitted to be obviated in view of the amendments and remarks presented herein. No new matter has been introduced through the foregoing amendments.

Claims 1 and 38 have been amended to define the bottoming device as having an application head that applies a *starch* glue, not a thermoplastic or "hot" glue. Support for the instant recitation is found in the background description at specification page 1, where Applicants disclose that "[t]he described type of glue application has stood the test of time in the devices for placing a paper bag bottom because it enables a clean application of large quantities of *starch* glue that is otherwise difficult to handle." Entry of each of the amendments is respectfully requested.

35 U.S.C. § 103(a) - McDaniel, Boger, Pedigrew, and Raterman

Claims 1-13, 20-27, 29-42, and 44 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No.

4,256,526 to McDaniel, U.S. Patent No. 4,687,137 to Boger et al. (hereinafter "Boger"), U.S. Patent No. 5,016,812 to Pedigrew, and further in view of U.S. Patent No. 6,342,264 to Raterman et al. ("Raterman"). To rectify the deficiencies of McDaniel, Boger, and Pedigrew, the examiner relies upon Raterman, and asserts in pertinent part that "it would have been obvious . . . to provide the cold glue of Raterman et al. in the gluer of McDaniel for dispensing cold glue" (Office Action page 4).

The rejection of claims 1-13, 20-27, 29-42, and 44 under § 103(a) based on McDaniel, Boger, and Pedigrew in view of Raterman is respectfully traversed. The combined disclosures of McDaniel, Boger, Pedigrew, and Raterman would not have rendered obvious Applicants' presently claimed invention.

By way of review, Applicants' invention is directed to a bottoming device for forming a cross bottom paper bag. As indicated above in the introductory remarks, the bottoming device has an application head that applies a *starch* glue, not a thermoplastic or "hot" glue. Applicants submit that any person skilled in the art is cognizant of the fact that a starch glue is a "cold" glue. Although starch glue can be difficult to handle, "[t]he described type of glue application has stood the test of time in the devices for placing a paper bag bottom because it enables a *clean application* of large quantities of starch glue" (specification page 1, last paragraph) (emphasis added). One drawback associated with using starch glue in prior art devices is

that "this method of glue transfer makes it necessary to make available and later clean many mechanical glue transfer components—such as for instance the plate roller and the format parts" (specification page 2, first paragraph).

Therefore, an object of Applicants' invention is to provide a bottoming device that not only takes advantage of the features of applying starch glue but that overcomes the aforementioned equipment cleaning requirements. As disclosed at specification page 2, third paragraph:

An advantageous design form of the present invention can carry out a glue transfer process on the components to be glued while at the same time preventing a component of the bottoming device that is carrying the glue, such as the glue reservoir or the glue duct, from touching the bag components. For this purpose the output orifices should be appropriately distanced from the parts to be glued. The glue can be properly sprayed against the parts to be glued. This contact-free glue application can prevent the contours of the format from being smeared and thus distorted by the contact.

Instant claim 1 defines a bottoming device with an application head that applies a starch glue. The bottoming device has a starch gluer that includes, *inter alia*, an "application head including a plurality of valves each having at least one starch glue output orifice through which the starch glue is directly applied to the folded bottom and/or the sheet, the valves being arranged in a configuration that includes at least a first valve row (VR_i) and a second valve row (VR_{ii}) with each of the first and second valve rows extending along a length of the application head

in a direction (y) that is transverse to a bag transfer direction (x)."

The asserted combination of McDaniel, Boger, Pedigrew, and Raterman would not have rendered obvious the presently claimed invention. McDaniel discloses a method of applying a *hot melt adhesive* to a substrate. See, e.g., McDaniel's disclosure at column 3, line 65, through column 4, line 18 of suitable hot melt adhesives, including "conventional hot melt adhesives," a "foamed hot-melt adhesive," and other thermoplastic adhesives. An object of McDaniel's method is to apply the hot melt adhesive in a "U" shape on the substrate.

Furthermore, McDaniel applies the hot melt adhesive differently than Applicants' claimed bottoming device applies starch glue. McDaniel's hot melt adhesive is applied through gun 40, gun 41, and gun 42 (column 6, lines 49-57; Figure 2). Gun 40 has one extrusion nozzle 36 and gun 41 has one extrusion nozzle 37; gun 42 has one spray nozzle 38. That is not Applicants' claimed device. Applicants' claimed application head feature has multiple valves, i.e., valves located in at least two rows in order to provide high resolution of the applied adhesive. That is, the claimed application head has a valve configuration that includes "at least a first valve row (VR_i) and a second valve row (VR_{ii}) with each of the first and second valve rows extending along a length of the application head in a direction (y) that is transverse to a bag transfer direction (x). The reason for

utilizing the claimed valve configuration is disclosed by Applicants at specification page 8, lines 1-4: "In case of an arrangement of a very large number of valves 32 on one application head 61, it is possible to arrange the glue lines in the y direction close to one another and at the same time to achieve a very high resolution in the formation of the adhesive profile."

The examiner acknowledges that McDaniel fails to disclose "the structure of [the] gluer" (Office Action page 3). The examiner then relies upon the disclosure of Boger to overcome the deficiencies of McDaniel. Boger, however, also teaches applying a *hot melt adhesive* to a substrate, "particularly the plastic backing sheet of a disposable diaper" (abstract). In fact, Boger discloses dispensing "fine beads of molten thermoplastic adhesive such as pressure-sensitive hot melt adhesive upon a substrate" (column 2, lines 27-29). Boger's glue application head is only functional with adhesive in a molten state as thermoplastic hot melt adhesive (column 6, lines 21-39).

The examiner then further acknowledges that the combined teachings of McDaniel and Boger do not meet Applicants' claimed feature of two rows of valves, i.e., "the valves being arranged in a configuration that includes at least a first valve row (VR_i) and a second valve row (VR_{ii})."¹ The examiner relies upon the disclosure of Pedigrew to overcome the combined deficiencies of McDaniel and Boger. Pedigrew, however, also teaches applying a *hot melt adhesive* to a carton (see, e.g., the abstract). Furthermore,

Pedigrew even points out certain *deficiencies* associated with the use of thermoplastic adhesives, i.e., "thermoplastic adhesives also present problems in packaging and cartoning applications" (column 1, lines 20-22, and column 1, line 23, through column 3, line 59). As indicated above, Applicants' invention is directed to a bottoming device for forming a *cross bottom paper bag*, i.e., one of Pedigrew's "packaging" applications.

Accordingly, as even the examiner acknowledges, since McDaniel, Boger, and Pedigrew each disclose the use of a *hot melt adhesive*, the asserted combination does not teach all of Applicants' presently claimed features.

Then, to rectify the deficiencies of McDaniel, Boger, and Pedigrew, the examiner relies upon Raterman, and asserts in pertinent part that "it would have been obvious . . . to provide the cold glue of Raterman et al. in the gluer of McDaniel for dispensing cold glue."

Applicants respectfully disagree, and submit that the examiner's conclusion of obviousness is based on an *improper hindsight reconstruction*. There is no teaching whatsoever in any of McDaniel, Boger, Pedigrew, and Raterman that would have led one to select the references and combine them, let alone in a way that would result in Applicants' presently claimed invention. With regard to Boger, Applicants' cross bottom paper bag and Boger's disposable diaper are completely different products produced by different technologies. For that reason alone a person having

ordinary skill in the art - here, an engineer for cross bottom paper bag machines - would never look to Boger to satisfy the deficiency of McDaniel, much less to arrive at Applicants' claimed paper bag producing machine. Furthermore, as indicated above, Pedigrew, which teaches the use of a *hot melt* adhesive, actually goes on to point out the deficiencies of thermoplastic adhesives when used in packaging and cartoning applications. Finally, the examiner relies upon Raterman for the teaching of "cold glue." But, there is no teaching whatsoever in any of the prior art references that a cold glue would even be functional in the *hot melt* adhesive devices of McDaniel, Boger, and Pedigrew.

Therefore, the combined disclosures of McDaniel, Boger, Pedigrew, and Raterman would not have rendered obvious Applicants' presently claimed invention.

35 U.S.C. § 103(a) - McDaniel, Boger, Pedigrew, and Gunn

Claim 43 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over McDaniel, Boger, and Pedigrew, and further in view of U.S. Patent No. 6,932,870 to Gunn et al. ("Gunn"). To rectify the deficiencies of McDaniel, Boger, and Pedigrew, the examiner relies upon Gunn, and asserts in pertinent part that "it would have been obvious . . . to provide the starch glue of Gunn et al. in the gluer of McDaniel for dispensing starch glue."

The rejection of claim 43 under § 103(a) based on McDaniel, Boger, and Pedigrew in view of Gunn is also respectfully

traversed. For reasons similar to those provided above, the combined disclosures of McDaniel, Boger, Pedigrew, and Gunn would not have rendered obvious Applicants' presently claimed invention.

As even the examiner acknowledges, since McDaniel, Boger, and Pedigrew each disclose the use of a *hot melt adhesive*, the asserted combination does not teach all of Applicants' presently claimed features. To rectify the deficiencies of McDaniel, Boger, and Pedigrew, the examiner relies upon Gunn, and asserts in pertinent part that "it would have been obvious . . . to provide the starch glue of Gunn et al. in the gluer of McDaniel for dispensing starch glue."

Applicants respectfully disagree, and again submit that the examiner's conclusion of obviousness is based on an *improper hindsight reconstruction*. There is no teaching whatsoever in any of McDaniel, Boger, Pedigrew, and Gunn that would have led one to select the references and combine them, let alone in a way that would result in Applicants' presently claimed invention. A person having ordinary skill in the art would simply not look to Boger to satisfy the deficiency of McDaniel, much less to arrive at Applicants' claimed paper bag producing machine. Pedigrew points out the deficiencies of thermoplastic adhesives when used in packaging and cartoning applications. The examiner relies upon Gunn for the teaching of starch glue. But, there is no teaching whatsoever in any of the prior art references that a starch glue

would even be functional in the hot melt adhesive devices of McDaniel, Boger, and Pedigrew.

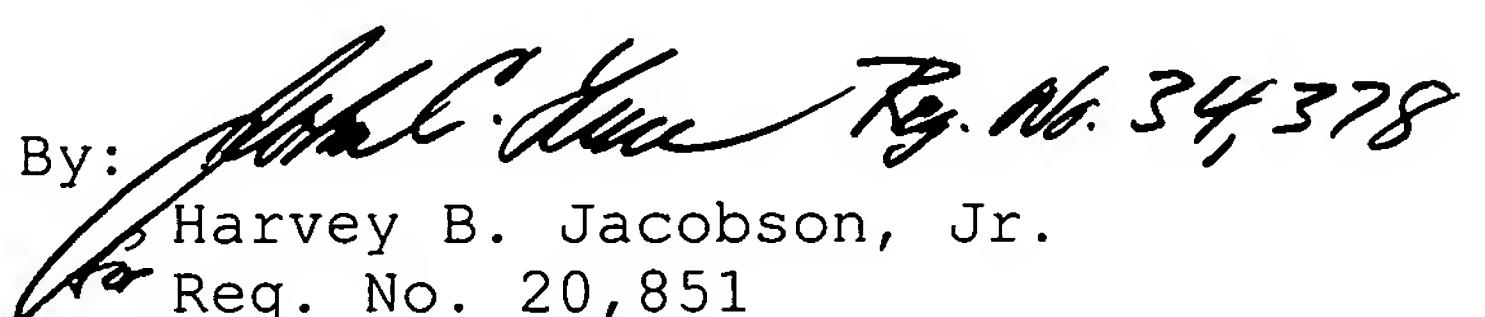
Therefore, the combined disclosures of McDaniel, Boger, Pedigrew, and Gunn would not have rendered obvious Applicants' presently claimed invention.

In view of the foregoing, this application is now in condition for allowance. If the examiner believes that an interview might expedite prosecution, the examiner is invited to contact the undersigned.

Respectfully submitted,

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